

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF WORK

DRAFT

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NAS
ENGINEERING
SERVICES

NATIONAL AIRWAY SYSTEMS
ENGINEERING
AJW-14

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STATEMENT OF WORK

1.0 INTRODUCTION:

This Statement of Work (SOW) sets forth the requirements for Engineering Services and Technical Support for the following organizations: AJW-14, AJW-19, AJW-151, AJW-173, AJW-178, and AJW-223. Typically, the text of this document will note that contract support effort will be provided to AJW-14. It is the intent that similar support efforts will be provided to AJW-19, AJW-151, AJW-173, AJW-178, and AJW-223 in their respective contract work assignments. The work to be performed is in support of civilian and military aircraft guidance and surveillance equipment and systems.

1.1 To accomplish the work effort specified in this SOW, the Contractor shall provide a wide variety of engineering, technical and administrative support personnel. The Contractor shall perform the services identified in this SOW in support of the National Airspace System (NAS) with minimal assistance from Federal Aviation Administration (FAA) personnel.

1.2 During performance of work under the contract, contractor personnel may be required to have access to information that is classified as "Confidential", "Secret", or "Top Secret". Personnel in positions that require access to classified information shall possess or obtain a security clearance appropriate for the access required. The Contractor shall be responsible for providing personnel qualified to perform all required work, including obtaining security clearances as necessary, and complying with the terms of AMS clauses found elsewhere in the contract.

1.3 The contract includes a mix of Firm-Fixed-Price and Cost Reimbursable (Cost Plus Fixed-Fee) tasks and are delineated by type further in this SOW.

2.0 BACKGROUND:

The National Airway Systems Engineering Division, AJW-14, primarily based at the Mike Monroney Aeronautical Center (MMAC) in Oklahoma City, Oklahoma, William J. Hughes Tech Center (Tech Center) in Atlantic City, New Jersey, and the National Weather Service's Radar Operation Center (ROC) in Norman, Oklahoma provides engineering support to the FAA's NAS which includes locations nationwide plus U.S. territories. AJW-14 supports a broad range of systems, consisting of thousands of individual pieces of equipment in the Facilities, Surveillance, Navigational Aids, and Weather Systems. In support of NAS systems and equipment, AJW-14 also provides configuration management, hardware and software documentation, modifications, direct field support, systems support, and acquisition support.

AJW-19, WAAS Operations, AJW-151, NAS Defense Program, AJW-173, OK Communications Engineering Team, AJW-178, NAS Interfacility Communications Engineering Support, and AJW-223, Power Services Group/Operations Engineering Team are also located at MMAC in Oklahoma City, OK. These Teams provide similar support services to the FAA National Airspace Systems as those provided by AJW-14.

AJW-14 Tech Center organizations are currently supported under other existing contracts. It is the intent under this Statement of Work that support services under those contracts will be phased out and support under this contract will be substituted therefor.

3.0 APPLICABLE DOCUMENTS:

The listed documents are examples of reference documents to be used as needed when performing services under the SOW. This is not a complete list. Additional documents, including but not limited to: FAA Orders, Standards, and/or Branch Operating Procedures, may be identified in the individual project assignments and elsewhere. Latest revision of documents will be used.

- a. Order 1320.1E - FAA Directives System.
- b. FAA – iCMM v2 - Integrated Capability Model for the Acquisition of Software Intensive Systems.
- c. Specification FAA-G-2100H - Electronic Equipment, General Requirements.
- d. FAA-STD-010C - Graphic Symbols for Digital Logic Diagrams.
- e. FAA-STD-013D - Quality Control Program Requirements.
- f. FAA-STD-018A - Computer Software Quality Program Requirements.
- g. FAA-D-2494B - Technical Instruction Book Manuscript: Electronic, Electrical, and Mechanical Equipment Requirements for Preparation of Manuscript and Production of Books.
- h. FAA Order 3900.19B – Occupational Safety and Health Program.
- i. Order 1100.157A - National Engineering Field Support Division Maintenance Program Procedures.
- j. FAA Order 1320.58B – Instructions For Writing Notices, Maintenance Technical Handbooks, And System Support Directives.
- k. Applicable manufacturer's instruction material.
- l. AJW-14 Division Service Contract Operating Procedures.

4.0 GENERAL INFORMATION:

4.1 Period of Performance:

This contract includes a 45-day phase-in/transition period beginning June 23, 2012 followed by a base period of performance starting on August 8, 2012. The base period is followed by four 1-year options as shown below to be exercised at the sole discretion of the Government.

Base Period:	August 8, 2012 – March 31, 2013
Option 1:	April 1, 2013 – March 31, 2014
Option 2:	April 1, 2014 – March 31, 2015
Option 3:	April 1, 2015 – March 31, 2016
Option 4:	April 1, 2016 – March 31, 2017

4.2 Work Scheduling, Telework, Travel, and Overtime:

4.2.1 Work Schedules: Contract personnel may be required to work outside the normal day shift (8:00 AM to 4:30 PM). Flexible work schedules comparable to government schedules may be used when approved by the requiring organization. When government employees are granted administrative leave as a result of inclement weather, potentially hazardous conditions, explosions, presidential leave and other special circumstances, non-essential contractor employees shall be excused the same time. This excused leave time shall be considered as a direct cost to the contract (not applicable to fixed-price CLINs/tasks/subtasks).

4.2.2 Telework: No telework will be allowed under this contract except in rare circumstances. In those rare instances where telework is approved, the Government will not reimburse the contractor for out of area costs including, but not limited to: internet service, telephone service, or hardware.

4.2.3 Travel: Extensive travel may be required. Actual cost of lodging must be approved in advance by the requiring organization. Processing of requests for travel will be accomplished by following the AJW-14 Division Service Contract Operating Procedures pertaining to contractor travel.

4.2.4 Overtime: When overtime work is required, it must be approved in advance by the requiring organization. Contractor is required to obtain permission before working any overtime under the contract from the ACO and COTR, unless otherwise delegated.

4.3 Government Access to Contractor Facility:

Government personnel shall be allowed unannounced access to the Contractor's facilities during normal working hours.

4.4 Contractor Access to Government Agencies:

When working on AJW-14 assigned projects, contract personnel shall obtain permission from AJW-14 before visiting other Government agencies or facilities.

4.5 Contractor Access and Operation of FAA Facility Equipment:

AJW-14 shall coordinate Contractor access to FAA facilities. Designated FAA site personnel have the authority to grant access, and operate the site equipment. The Contractor proposed test requirements shall be provided at the time the request for test is made. Use of FAA equipment may be outside normal duty hours.

4.6 Training:

Section 6.1 (Position Requirements and Qualifications) of this SOW specifies the level of education, training, and experience necessary to perform the work in the SOW. These requirements are established as guidelines to be used in the selection of employees. The Contractor shall provide employees that meet these requirements at the time of employment.

Contract employees will be required to attend the requisite in service training necessary to deliver the services identified in this SOW. Employees must become proficient on baseline and upgrades to NAS systems and equipment, support documentation, and work processes. Training may be required for non-technical as well as the technical support positions defined in this SOW.

All requests for contractor proficiency training will be in writing. Processing of requests for this training will be accomplished by following the AJW-14 Division Service Contract Operating Procedures pertaining to contractor training.

When approved by the FAA, contract employees may or shall (depending on the type of training) attend Agency and other sponsored training considered beneficial to the Agency. As examples, types of training may include, but are not limited to: administrative, technical and non-technical training, such as safety, security, environmental, PRISM, etc. Training for inherently Governmental functions will not be authorized or reimbursed under the contract. Training for soft skills (e.g. conflict resolution, effective communication, etc.) will not be authorized or reimbursed for Government-sponsored offerings, and if provided by the Contractor through any method, shall not be reimbursed as direct hours under the contract.

Prior to attending any training in which the Contractor intends to submit for reimbursement, all support contractors are required to submit the "Support Contractor Authorization-FAA Sponsored Training" form to the appropriate Contracting Officer. See AMS Procurement Form Templates.

4.7 Time Utilization in DMS (Database Management System):

In order for AJW-14 to capture contractor employee hours expended on assigned projects, all contractor employees are required to record their time in Data Management System (DMS) on a bi-weekly basis.

4.8 Personnel and Supervision:

The Contractor shall designate sufficient supervisory personnel to meet task outcomes. Contractor supervisors will provide day-to-day supervision of contract personnel including, but not limited to: work monitoring, payroll records, leave, etc. At no time will contractor personnel be supervised by FAA personnel. Government assistance will be available to provide technical guidance.

4.9 Mission Essential Personnel:

All or a portion of the services performed under this contract may be designated as essential in the event of crisis or emergency. Should such an event occur, the Administrative Contracting Officer or designated representative may require the Contractor to designate mission essential personnel, who will be required to perform essential services to ensure continuity of required operations.

4.10 Cell Phones:

Cell phones will be provided on an “as-needed” basis. If work functions dictate such use, cell phones will be assigned to Govt. branch managers via the National Wireless Program and provided to contractor personnel. These will be assigned as appropriate and upon issuance, listed as Government furnished property.

4.11 Phase-in/Transition Period (CLIN 0001):

It is essential to the Government that services required under this SOW are performed without interruption. Consequently, it is imperative that transition to full contract performance be accomplished in a well-planned, orderly, and efficient manner. The transition period shall begin 45 days prior to full contract performance as required by the solicitation/contract. The purpose of the phase-in period is primarily to:

- a. Observe work accomplished by contractor personnel.
- b. Become familiar with work requirements, work procedures, and status of all projects,
- c. Complete personnel requirements including the hiring of personnel to ensure satisfactory performance beginning on the contract start date. **NOTE:** Soliciting personnel for employment during their duty hours is prohibited.
- d. Obtain security clearances.

The Contractor will be allowed access to the facilities to familiarize personnel with the current operations. Such access; however, must not interfere with the activities of current contract personnel. To preclude such interference, arrangements must be made with the designated Contracting Officer Technical Representative (COTR).

5.0 SCOPE OF WORK:

The Contractor shall provide the necessary resources, personnel, facilities, material, equipment, and services to meet the Firm Fixed-Priced and Cost-Reimbursable requirements noted below in this SOW.

5.1 Firm Fixed-Priced Requirements (CLIN 0002)

In support of the AJW-14 mission, contract services are needed to provide overall contract support in the following areas:

- Contract Management
- Purchasing/Invoicing
- Shipping/Receiving & Other Support
- Technical Support

5.1.1 Requirements

The Contractor shall provide personnel, services, and supervision to perform the following functions:

5.1.1.1 Contract Management: The manager(s) designated for the contract shall be responsible for the management and coordination of the overall contract including, but not limited to: program management, reporting, and quality control. The manager(s) shall act as the central point-of-contact with the Government and shall have the authority to represent and commit the Contractor in dealing with the Government. This work does not include the duties typically performed by Technical Managers in the AJW-14 branches. The manager(s) shall be physically located at an established Oklahoma City facility or an on-site MMAC facility. Should the manager be temporarily absent, an individual shall be designated in writing to act as alternate. The ACO and COTR shall be notified of the name of the individual who will be acting as the alternate.

Minimum Qualifications: Bachelor of Science degree in Electrical or Electronic Engineering is required. Degrees in other technical or science fields may be substituted depending on other qualifications and specialized experience. At least ten years of experience in providing hardware and software support of electronic systems is required. This experience must include: direct responsibility for providing systems level requirements definition; product design, development and installation; development of and modifications to hardware and software documentation; quality assurance and quality control programs and procedures. Hardware and software experience on NAS related systems and equipment is highly desirable. Experience in management of engineering groups is desired. Knowledge of Government procurement and contracting rules and regulations is required. Conceptual knowledge of the NAS systems and equipment is desirable.

5.1.1.2 Purchasing and Invoicing: The Contractor shall provide the necessary personnel to perform all functions related to purchasing and invoicing to include support for the contractor's purchase card program (if applicable); organization-wide reconciliation; supply/logistics program; contract vouchering process including voucher review for the travel program; process improvement; and review and processing of purchase requests. This function also includes any reporting of information and property purchased as requested by the Government. Purchasing and invoicing are separate functions and should not be under one person's control. Based on past historical data, purchasing costs have totaled approximately \$15M per year and is expected to remain relatively stable with only slight increases for inflation. For invoicing purposes, it is anticipated that there will be 26 billing periods during a full contract year and the contractor will submit one invoice for each task issued under the contract for each billing period.

Minimum Qualifications: An Associate's degree or two years of experience dealing with purchasing and invoicing functions. Lead positions in the purchasing and invoicing arena shall possess a Bachelors degree where at least 18 hours in accounting were completed or must possess four years of experience dealing with a budget in excess of \$1million is required. All positions require experience in word processing and computerized spreadsheet applications.

NOTE: All items purchased shall be billed under a separated CLIN.

5.1.1.3 Shipping/Receiving & Other Support: The Contractor shall perform functions including, but not limited to: shipping/receiving of approximately 4000 packages annually in MMAC Bldg. 189. The Contractor shall ensure all paperwork associated with the packages (i.e. packing slips, invoices, etc.) are processed and recorded as necessary. The Contractor shall also ensure the maintenance records of approximately 10 GSA vehicles are maintained and kept up to date.

Minimum Qualifications: Completion of one or two years of college is desirable or at least one year experience in the respective area of support (shipping & receiving) is required. Ability to use advanced word-processing and computerized spreadsheet applications are required.

5.1.1.4 Technical Support:

5.1.1.4.1 The Contractor shall oversee, manage, maintain, and operate the AJW-14 engineering test lab in MMAC Bldg. 189. The Contractor shall ensure the lab is kept clean, tools and test equipment (approximately 30 pieces) are kept in readiness order, inventory and calibration records are kept up to date, and shall provide technical support as required.

5.1.1.4.2 The Contractor shall provide support to maintain, operate, and program EPROM (Erasable Programmable Read Only Memory) equipment. Approximately 15,000 – 17,000 EPROMs are programmed/reprogrammed annually. This position is anticipated to be located in the MMAC Bldg. 228.

Minimum Qualifications: An Associate's degree in Electronics Technology, the completion of equivalent technical courses in the Military service or the FAA Academy, or at least five years experience in an engineering technical support position or electronic systems maintenance support position is required.

5.1.2 Working Hours

The Contractor shall provide services Monday thru Friday between the operating hours of 0600-1800. There are no provisions included herein for reimbursing contractor personnel for hours worked on an overtime basis under a Firm-Fixed-Priced arrangement. The Contractor is required to provide adequate staff to complete projects on time and within schedule which may necessitate contractor employees working overtime. This does not relieve the contractor from reimbursing their employees covered by a Department of Labor Wage Determination pursuant to applicable U. S. labor laws, or any other obligation embodied in said laws.

5.1.3 Travel & Other Direct Costs

No travel or Other Direct Costs are anticipated under the Firm-Fixed-Price requirements; however, if the need arises, travel costs will be reimbursed on a cost-reimbursable basis under a separate CLIN.

5.2 Cost-Reimbursable (CPFF) Requirements (CLIN 0003)

Cost-reimbursable efforts are primarily established under a three-tier structure: tasks, subtasks, and projects.

5.2.1 Tasks, Subtasks, and Projects:

5.2.1.1 Tasks and Subtasks: A “Task” description will be general in description and broad in scope. A separate contract delivery order will be initiated for each task effort. A typical task description will cover the support for one or more NAS systems. Within the task description, a subtask(s) may be initiated for each major system support effort. As an example, a task will be written for Surveillance Support. Subtasks to support this task may include Enroute Radar Support, Terminal Radar Support, Beacon Radar Support, etc. As a minimum, the Task Description will include: Background, Scope, Deliverables, and Milestones. Each Task Description will be signed by the Team Manager and Contract Technical Officer TO/COTR before submission to the CO. Upon receipt, the CO will forward the task description to the Contractor.

Some task efforts may be very extensive and require the work be broken into Subtasks. Typically, the Subtask format will include: Background, Scope, Milestones, Deliverables, GFP/GFE, Special Terms and Conditions, Quality Control / Quality Assurance, Inspection and Acceptance, and Technical Documents. Each Subtask will be signed by the Team Manager and COTR before submission to the CO. Upon receipt, the CO will forward the subtask to the Contractor.

5.2.1.2 Projects: Projects are established from the task or subtask description. Each project assignment will define the project number, project title, subtask number, project description, and deliverables required. All requests to establish new projects with the Contractor shall be submitted by or through the AJW-14 Team Manager to the ACO and COTR by email or memo. The ACO and COTR will ensure the work is within the scope of this SOW, and the ACO will forward the approved work request to the Contractor. The Contractor will assign projects to their employees and notify the requiring office to which employee the work is assigned. All deliverables completed by the contract employees will be submitted to their contract management for review and acceptance. The Contractor will forward approved deliverables to the requiring organization.

5.2.1.3 Types of Projects: The various task projects shall include, but not be limited to the following:

- a. Perform engineering studies related to modification, design, monitoring, remote control, interfacing, and other requirements on National Airspace System (NAS) equipment. Deliverables may include an engineering report and cost estimate package for design, procurement, installation, testing, and evaluation of prototype systems.
- b. Provide the technical expertise, materials, fabrication effort, and equipment to design, install, test, and evaluate prototype modifications of NAS equipment.
- c. Provide hardware and software documentation, drawings, specifications, and cost estimates to implement proposed changes to NAS equipment on a national level.
- d. Develop changes to equipment instruction books and system maintenance handbooks by working from comments and materials provided. Camera-ready page masters of revised books are required as an end product.
- e. Provide technical support and management of the AJW-14 Program Support Facilities (PSF),

System Support Facility (SSF), Radar Support Facility (RSF), Enroute Support Facility (ESF), Navigation Engineering Test Structure (NETS), VOR-700, Power Service Center, and other test bed facilities located at MMAC as required.

f. Provide for the management, operation, and support of the AJW-14 Local Area Network (LAN), computer workstations, and peripheral computer equipment. NOTE: At this time, LAN operations are not assigned to organizations supported under this contract. This and subsequent references to LAN support are included for informational purposes only at this time and are reflective of historical workload. If it should become an assignment during the course of this contract, it will be ordered and funded either under one of the then existing orders or by separate order.

g. Operate the AJW-14 technical data library and software library including software configuration control and records.

h. Provide technical drafting and illustrating, editing, word processing, property management, telecommunications, data base management, training, safety, environmental, HR programs, and other administrative support.

i. Provide first level engineering support to field organizations through telephone assistance or onsite assistance.

j. Provide for engineering, equipment installation, and other maintenance related support for Headquarters National Airway System (HQNAS) programs and projects requiring AJW-14 support.

k. Provide technical support for new systems acquisitions by writing test plans, operation and maintenance procedures, and participating in systems level integration, validation, certification of equipment and other acquisition support as required.

l. Provide support for Safety Management System (SMS) activities.

m. Provide support for the Information Security System (ISS) function, which may include, but is not limited to: oversight, remediation, and system configuration and authorization package (SCAP).

5.2.1.4 Project Procedure: Each project or project phase shall be planned for completion by the Contractor under the following procedures:

a. An orientation meeting will be scheduled as required. Start dates or project phases shall be mutually agreed upon by the Government and the Contractor.

b. The Contractor shall be provided the project background information.

c. Technical documentation (instruction books, handbooks, etc.) will be identified, and provided for access in the AJW-14 technical library if available.

d. The Contractor shall be advised of required scheduling, reporting, and deliverables.

5.2.1.5 Project Responsibility: After project assignment, the Contractor assumes all responsibility for supervision and accomplishment of the contractor assigned projects.

5.2.1.6 Project Files: The Contractor shall maintain individual project files consisting of background information, design notes, and other material for assigned projects. Project numbers shall be assigned by the FAA. All case files, program files, drawings, software, programs,

diskettes, design data, artwork, etc., developed by the Contractor under this SOW, become the property of the Government. These items shall be delivered with the final product.

5.2.1.7 Documentation Requirement: All documents submitted to the FAA, related to project accomplishment, must be developed on electronic media. It shall be compatible with the requisite version Microsoft Word, Excel, Auto Cad, or other software as required by AJW-14. If requested, the submittal shall be delivered to the FAA on electronic media or hard copy or both. This requirement may include management reports, progress reports, ad-hoc reports, technical drawings, vouchers and other accounting documents as determined by AJW-14.

5.2.2 Specific Areas of Effort

5.2.2.1 MODIFICATION SUPPORT REQUIREMENTS:

AJW-14 is responsible for in-service improvements and modifications of assigned NAS systems. These responsibilities are accomplished by development and implementation of modifications and upgrades to assigned equipment and facilities. The Contractor will be assigned projects encompassing the full range of modification support. Typical projects range from a feasibility study of the proposed modification through prototype development, testing, and preparation of documentation. See paragraph 5.2.2.2, Documentation Support Requirements, of this SOW for definition of types of Modification Documentation.

5.2.2.1.1 Project Definition: Modification projects typically involve:

- a. Engineering Study (ES), with Prototype Development and Testing.
- b. Production Package Development.

5.2.2.1.2 Engineering Study Phase: This phase requires a completed engineering study report with prototype development. Typical events involved in this phase are:

- a. Review and evaluate the technical material provided with the FAA assigned and approved engineering project.
- b. Review the reported problem or requirement with the appropriate FAA representative.
- c. Request for contact with the appropriate field installations to discuss or evaluate the reported problem or requirement.
- d. Visit facilities as approved by the FAA.
- e. Develop a solution to the problem.
- f. Conduct laboratory or simulated testing of a breadboard design that demonstrates the feasibility of the solution.
- g. Prepare an Engineering Study Report (ESR), which clearly defines the problem or requirement, the alternatives considered, and propose a solution or course of action.
- h. Submit the Engineering Study Report for review. If rejected by the FAA, it is returned for additional study. If accepted by the FAA, guidance shall be provided for further contract action.
- i. Fabricate a complete prototype modification kit, working from the FAA approved design.
- j. Arrange through an AJW-14 representative for the location(s) to make the prototype installation

and test. This request should be made a minimum of 30 days in advance of the required testing.

k. Develop a draft of paragraphs 7, 9, 14 and 15 of the SSM – System Support Modification or EEM – Electronic Equipment Modification (materials, special tools and test equipment, modification procedures and test after modification) per the latest version of FAA Order 1320.58.

l. Install and test the modification, submit a report on test results and findings, make design corrections if necessary.

m. Prepare general cost estimate for nationwide implementation.

n. Complete the draft modification in accordance with the latest Order of 1320.58. Include all the required paragraphs and draft instruction book changes to incorporate the modification.

o. The FAA will formally accept or reject the test report and the draft EEM, SSM (System Support Mod), or SDR (System Documentation Release). If rejected, the additional work required shall be identified in general terms.

5.2.2.1.3 Production Package Development Phase: This phase of a project normally results in two documents. A Purchase Description for acquisition of materials, and the final SSM/EEM documentation. Both shall be submitted to AJW-14 by the Contractor.

a. The Purchase Description consists of drawings, specifications, and parts list. Final cost estimates shall be attached. The Purchase Description shall allow for competitive acquisition action. Specification FAA-G-2100 shall be used as a guide in specifying kit parts.

b. The SSM/EEM shall be delivered in camera-ready form and in accordance with the latest version of Order 1320.58. Modification projects involving instruction book changes require the format of the existing book to be maintained. The type and artwork of the changed pages must match that of the original pages or masters.

5.2.2.2 DOCUMENTATION SUPPORT REQUIREMENTS:

AJW-14 has the responsibility for development and changes to documentation related to NAS equipment utilized by the FAA. This documentation is primarily maintenance oriented in the form of Maintenance Technical Handbooks (general equipment or system specifications) and Technical Instruction Books (equipment functional testing and troubleshooting). Responsibility for Commercial Off the Shelf (COTS) documentation is included.

The Contractor shall develop and maintain technical documents as appropriate to support assigned work effort. The documentation is primarily maintenance oriented for both hardware and software maintenance. These documents shall meet AJW-14 requirements for format and content.

5.2.2.2.1 Project Definition: Typically documentation projects will consist of one or more of the following:

a. Development of System Test Plans.

b. Development of Maintenance Technical Handbooks, revisions, and page changes.

c. Development of Instruction Books, revisions, and page changes.

d. Participate in development and review of hardware and software documentation.

- e. Prepare Site Program Bulletins (SPBs).
- f. Provide other documentation support as required.

To accomplish the work, the Contractor shall undertake efforts typified by, but not limited to the following:

- a. Submit documentation suitable for inclusion into existing FAA technical manuals, orders, and other applicable hardware and software documentation.
- b. Prepare new maintenance documentation.
- c. Conduct an analysis of and incorporate FAA review comments.
- d. Provide management review and approval packages for technical documentation projects. These packages typically consist of a clearance record (FAA Form 1300-2) and copies; original copy of a transmittal document (Order Notice or Change); and camera-ready copy of Notice, New Orders, Revised Orders, instruction book page changes, or handbook page changes.

5.2.2.3 SOFTWARE AND HARDWARE ENGINEERING SUPPORT REQUIREMENTS:

The FAA is actively involved in acquiring and fielding new facilities, systems, and equipment throughout the NAS. AJW-14 is called on to provide a wide range of technical and acquisition support for these major program efforts, to transition these systems and equipment from the research and development arena into the operational environment. Software and Hardware Engineering support is also needed to maintain existing facilities and equipment.

Software support requirements are primarily involved with embedded software on active NAS systems and equipment as well as AJW-14 test bed facilities and equipment. Engineering projects often involve software maintenance and include software development and software changes. Software support is also required for development and maintenance of databases at the national and local level. The AJW-14 contract work force shall be required to support AJW-14 in the software and hardware engineering activities required to maintain the NAS facilities and AJW-14 test bed facilities.

5.2.2.3.1 Project Definition: The Contractor shall provide the personnel required for software engineering and database management support. Typical duties are listed but not limited to the following:

- a. Develop operators, programmers, operations and maintenance, software user's, and computer system diagnostic manuals where equivalent FAA or commercially developed documents are unavailable.
- b. Operate and generate software programs for the various automated systems. Permanent or temporary additions, deletions, and changes to the equipment configuration will periodically occur. It shall be the responsibility of FAA designated personnel to re-certify the facility configuration when changes occur.
- c. Maintain an inventory for software program masters, operational firmware, documentation, and developmental system software for assigned hardware and software. A listing of each program by version, revision level, and other information will be developed.
- d. Research and design hardware and software systems or enhancements to existing systems or networks.
- e. Provide support for hardware, firmware, and software acquisition, development, distribution, and installation.

- f. Develop and execute detailed plans, schedules, and related activities to test, debug, and validate subroutine, module, and software systems.
- g. Provide engineering review of software and hardware design data to ensure it meets the criteria established in the documents listed in SECTION 3.0, APPLICABLE DOCUMENTS, of this SOW.
- h. Perform analysis, design, programming, and testing in support of proposed acquisitions of operational and support software. The integrity of the original design implementation, program function, and maintainability shall be protected.
- i. For operational programs, develop and maintain technical documentation. This documentation shall describe software functions, maintenance requirements, and maintenance techniques.
- j. Insure that hardware and software changes are performed in a thorough and complete manner to enhance future maintainability.
- k. Insure that all system software and hardware continues to meet NAS facility operational and functional standards as modifications and retrofits are developed or installed.
- l. Review and update Contract Data Requirements Lists (CDRL) and other contractual documentation.
- m. Participate in Preliminary Design Reviews (PDR), Critical Design Reviews (CDR), Physical Configuration Audits (PCA), and Functional Configuration Audits (FCA).
- n. Provide for Quality Assurance support by performing activities defined by the AJW-14 quality assurance policy and procedures.
- o. Participate in meetings and conferences as required in the acquisition and life cycle process, and provide responses to action items as needed.
- p. Develop database programs for purpose of tracking AJW-14 engineering, modifications, maintenance, time utilization, and budget activities.
- q. Provide support responsibilities for AJW-14 in operation and management of local and national level databases.
- r. Provide database training, data entry assistance, and reports when required.
- s. Provide other software and hardware engineering support as defined by individual project efforts within the scope of this SOW.

5.2.2.4 SOFTWARE MAINTENANCE FACILITY (SMF) REQUIREMENTS:

The SMF is a computer installation consisting of hardware and software to satisfy software development, integration, test, and configuration management. For purposes of this SOW, the SMF includes duties associated with the operation and maintenance of AJW-14 test bed facilities, Local Area Network (LAN), Automated Data Processing (ADP) and peripheral equipment.

5.2.2.4.1 Project Definition: Typical project efforts are listed but not limited to the following:

- a. Develop periodic maintenance schedules and take corrective maintenance actions for AJW-14

LAN, computer systems and peripherals, and test bed equipment. Minimal troubleshooting shall be performed by SMF support personnel. Major hardware maintenance will be performed through established FAA maintenance contracts. Minor repairs may be accomplished by SMF contract personnel.

- b. Become familiar with and be capable of operating test bed systems, LAN, ADP, and peripheral equipment for the purposes of maintenance actions, modifications installation, testing, and training.
- c. Provide limited level of troubleshooting and repair to maintain equipment in an operational mode on both hardware and software.
- d. Develop and provide equipment familiarization training as a result of hardware and software modifications and enhancements.
- e. Maintain an inventory for software program masters, operational firmware, documentation, and developmental system software for assigned hardware and software. A listing of each program by version, revision level, and other information will be developed.
- f. Provide for hardware and software enhancements and upgrades for the LAN, ADP, and test bed equipment.
- g. Prepare documentation in support of updates or changes to software and hardware.
- h. Perform system backups and data recovery.
- i. Provide support for installation and relocation of automated equipment.

5.2.2.5 DIRECT FIELD SUPPORT REQUIREMENTS:

AJW-14 has the responsibility to provide technical consultation and assistance to the field technicians and engineers when required to restore out of service facilities back to operational status. Restoration will include all required engineering support and repairs necessary to restore the facility. Further repairs of equipment will be considered out-of-scope and handled as a separate action through the FAA Logistics Center. Requests for on-site assistance can be required on a routine basis or on short notice (emergency) basis anytime within a 24-hour day.

Field support type of work requires an extraordinary high level of system and equipment experience and expertise. Request for assistance from the field occurs only after on-site technicians have not been able to restore a facility back to service. AJW-14 and the contractor must be in agreement on which contract employees are qualified to participate in field support duties.

5.2.2.5.1 Project Definition: When contract employees are called upon for direct field support assistance, they shall follow the same procedures as government employees performing the same service. Maintenance support shall be provided through telephone assistance and on-site assistance when needed. Contract employees shall provide the required documentation for tracking requests for assistance and entry of data into the AJW-14 database.

5.2.2.6 GENERAL SUPPORT REQUIREMENTS:

AJW-14 provides a highly skilled government and contract technical work force to meet the engineering, technical, and documentation services required to maintain and upgrade NAS facilities and equipment. Other support functions are required to support and complement the AJW-14 government and contract

technical work force in meeting the requirements of their assigned duties. The contractor shall provide the personnel to perform the support requirements listed below.

5.2.2.6.1 Areas of Support:

5.2.2.6.1.1 Technical Drafting/Illustration. The Contractor shall be responsible for providing Technical Drafting/Illustration Support. Typically this will include: creating and updating fabrication drawings, figures, illustrations, and schematics by automated and manual methods; conversion of existing paper copy drawings into digitized drawings; develop and maintain proficiency on automated drafting systems and techniques.

5.2.2.6.1.2 Technical Editing/Technical Writing. The Contractor shall be responsible for providing Technical Editing, Technical Writing, Word Processing, and Scanning support. Documents typically include maintenance handbooks, technical instruction books, site bulletins, modification directives, and orders. Delivered products will be consistent in format, grammar, and style as required by FAA and AJW-14 documentation directives, national orders, and standards. Support will include all aspects of the documentation process from initial draft of documents through editing, and preparation and distribution of print packages.

5.2.2.6.1.3 Program/Administrative/Secretarial Support. The Contractor shall be responsible for providing administrative support as needed in various locations at the division and branch level. Required support shall include duties related to:

- a. Telephone communications, space management, and property inventory management.
- b. Personnel, safety, environmental, and training related activities.
- c. Database and records management to include data entry, updating, tracking, problem resolution, and preparation of reports .
- d. Quality Assurance and Configuration Management.
- e. Secretarial support.
- f. Other administrative support as required.

5.2.2.7 INSTALLATION SUPPORT REQUIREMENTS:

Historically AJW-14 and associated technical support contract personnel have had the responsibility for engineering development and delivery of in-service improvements, upgrades, and modifications of assigned NAS systems and equipment. Similar contractor support related activities are also provided for AJW-19, AJW-151, AJW-223, AJW-173, and AJW-178 offices located at the MMAC. The requirement for installation of equipment due to upgrades and modifications of NAS facilities has become part of the task effort assigned to the local AJW-14, AJW-17, AJW-19, and AJW-223 offices and their support contractor.

5.2.2.7.1 Installation Task Development: Typically, the AJW-14, AJW-17, AJW-19, and AJW-223 engineering offices are asked to provide support for Major System Upgrades, Modifications, and Service Life Extension Programs (SLEP) for NAS facilities. The support activities typically include engineering studies, new equipment identification, install and test equipment at key sites, baseline the installation for national implementation, install equipment at requisite sites, and update site technical documentation.

5.2.2.7.2 Installation Task Requirements: Specific requirements in support of this area of effort will be provided in the Sub-Task and Engineering Project documents. In general, the contractor installation support requirements will include:

- a. Provide engineering and technical support for project development leading to the installation effort as defined in paragraph 5.2.2.7.1.
- b. Participate in equipment installation related meetings and development of installation schedules.
- c. Identify needed materials, equipment and supplies for site installations.
- d. Provide logistics support for procuring, receiving, shipping, storage, and site delivery of equipment and materials.
- e. Perform the installation of equipment at required sites in accordance with FAA specifications. This can range from simple installations that include the purchase of ancillary supplies and materials (e.g. wire, cable, conduit, etc.) to turn-key operations that include the purchase of equipment such as batteries and battery racks (no furniture shall be purchased). The turn-key operation may include the disposal of removed equipment if the local FAA logistics/property personnel provides proper documentation for excess surplus property. The Contractor shall ensure disposal of equipment meets all required laws and regulations.
- f. Perform or assist in performing operational checks of equipment after installation.
- g. Revise and update the site facility drawings as needed after completion of installation.
- h. Perform other related installation activities as defined in the subsequent engineering projects.

6.0 PERSONNEL REQUIREMENTS:

The Contractor shall be responsible for employing qualified personnel to perform the support requirements defined in this SOW. The Contractor must have the personnel, organization, and administrative control necessary to ensure that each project is completed satisfactorily. If questions arise that the Contractor is using other than qualified personnel, the Contractor shall provide proof that personnel do possess proper qualifications and experience. Engineering and technical services that require State, Local, or other licensed, registered or certified personnel are not required under this contract.

After award of the contract, the Contractor shall submit a resume to the COTR for each person to be assigned to this contract. The resumes will be reviewed for purposes of determining that applicants meet the requisite qualifications of paragraph 6.1 "Position Requirements and Qualifications" of the SOW. Exceptions for submission may be made in the case of incumbent employees for which a resume has been provided and on file with the COTR.

Exceptions or waivers to requisite qualifications are covered under Section 6.2 of this SOW. The COTR shall notify the Contractor of the determination of waiver based on the qualifications of the applicant.

6.1 Position Requirements and Qualifications:

Requisite qualifications for each position have been developed to reflect the level of education, training, and experience necessary to perform the projects assigned under this SOW. The FAA is not dictating that contractors must hire each of these positions; however, these requirements are established as guidelines to be used in the selection of employees.

6.1.1 Contract Manager:

6.1.1.1 The Contractor shall designate a Contract Manager(s) for the contract. The manager designated for the contract shall be responsible for the management and coordination of the overall contract including, but not limited to: program management, reporting, and quality control. The Contract manager shall act as the central point of contact with the Government. The individual shall have the authority to represent and commit the Contractor in dealing with the Government.

6.1.1.2 The Contract manager shall be physically located at an established Oklahoma City facility or an on-site MMAC facility. Should the Contract Manager be temporarily absent, an individual shall be designated in writing to act as alternate. The CO and COTR shall be notified of the name of the individual to act as alternate.

6.1.1.3 A Bachelor of Science degree in Electrical or Electronic Engineering is required. Degrees in other technical or science fields may be substituted depending on other qualifications and specialized experience.

6.1.1.4 At least ten years of experience in providing hardware and software support of electronic systems is required. This experience must include: direct responsibility for providing systems level requirements definition; product design, development and installation; development of and modifications to hardware and software documentation; quality assurance and quality control programs and procedures. Hardware and software experience on NAS related systems and equipment is highly desirable. Experience in management of engineering groups is desired.

6.1.1.5 Knowledge of government procurement and contracting rules and regulations is required. Conceptual knowledge of the NAS systems and equipment is desirable.

6.1.2 Technical Manager:

6.1.2.1 A Bachelor of Science degree in Electrical or Electronic Engineering is required. Degrees in other technical or science fields may be substituted depending on other qualifications and specialized experience.

6.1.2.2 At least ten years of experience in providing hardware and software support of electronic systems is required. This experience must include: direct responsibility for providing systems level requirements definition; product design, development and installation; development of and modifications to hardware and software documentation; quality assurance and quality control programs and procedures. Hardware and software experience on NAS related systems and equipment is highly desirable. Experience in management of engineering groups is desired.

6.1.2.3 Knowledge of government procurement and contracting rules and regulations is desired. Conceptual knowledge of the NAS systems and equipment is required.

6.1.3 Software Engineer:

6.1.3.1 A Bachelor of Science degree in software engineering, electronics or electrical engineering is required. The degree must be from a school of engineering with at least one curriculum accredited by the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum. A degree in engineering technology or in an appropriate professional field such as physics, chemistry, architecture, computer science, mathematics, hydrology, or geology may be substituted in lieu of the engineering degree, depending on other qualifications, and length and type of specialized experience. Alternate degree guidelines: The work history must demonstrate application of professional engineering principles and practices wherein work was supervised by a professional engineer. It is preferable that the academic record reflect completion of 5 of the following 7 areas of engineering science or physics: (a) statics, dynamics; (b) strength of materials (stress-strain relationships); (c) fluid mechanics, hydraulics; (d) thermodynamics; (e) electrical fields and circuits; (f) nature and properties of materials (relating particle and aggregate structure to properties); and (g) any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics.

6.1.3.2 At least six years experience in providing software engineering services is required. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements. Experience in software development and modifications, circuit analysis, and technical writing skills are required. Requisite engineering experience on NAS systems and equipment is highly desirable.

6.1.3.3 Knowledge of professional engineering principles, practices and procedures is required. Specialized knowledge of NAS systems and equipment is required. Knowledge of computer hardware, systems software, and computer systems architecture and integration, are required. Highly developed software programming skills in NAS applications software such as 'C', UNIX, Assembly, ADA, and FORTRAN are required.

6.1.4 Electronic/Electrical Engineer:

6.1.4.1 A Bachelor of Science degree in electronics or electrical engineering is required. The degree must be from a school of engineering with at least one curriculum accredited by the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum. A degree in engineering technology or in an appropriate professional field such as physics, chemistry, architecture, computer science, mathematics, hydrology, or geology may be substituted in lieu of the engineering degree, depending on other qualifications, and length and type of specialized experience. Alternate degree guidelines: The work history must demonstrate application of professional engineering principles and practices wherein work was supervised by a professional engineer. It is preferable that the academic record reflect completion of 5 of the

following 7 areas of engineering science or physics: (a) statics, dynamics; (b) strength of materials (stress-strain relationships); (c) fluid mechanics, hydraulics; (d) thermodynamics; (e) electrical fields and circuits; (f) nature and properties of materials (relating particle and aggregate structure to properties); and (g) any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics.

6.1.4.2 At least six years of experience in providing electronics engineering services is required. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements. Specialized engineering experience on NAS systems and equipment is highly desirable. Experience in analyzing and testing electronic system performance, and in producing engineering prototypes, studies, and technical documents is required.

6.1.4.3 Knowledge of professional engineering principles, practices and procedures is required. Specialized knowledge of NAS systems and equipment is required. Knowledge of computer hardware, systems software, and computer systems architecture and integration, with emphasis on hardware, are required.

6.1.5 General Engineer:

6.1.5.1 A Bachelor of Science degree in mechanical or civil engineering is required. The degree must be from a school of engineering with at least one curriculum accredited by the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum. A degree in engineering technology or in an appropriate professional field such as physics, chemistry, architecture, computer science, mathematics, hydrology, or geology may be substituted depending on other qualifications, and length and type of specialized experience. Alternate degree guidelines: The work history must demonstrate application of professional engineering principles and practices wherein work was supervised by a professional engineer. It is preferable that the academic record reflect completion of 5 of the following 7 areas of engineering science or physics: (a) statics, dynamics; (b) strength of materials (stress-strain relationships); (c) fluid mechanics, hydraulics; (d) thermodynamics; (e) electrical fields and circuits; (f) nature and properties of materials (relating particle and aggregate structure to properties); and (g) any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics.

6.1.5.2 At least six years of experience in providing general engineering services is required. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements. Specialized engineering experience on NAS systems and equipment is highly desirable. Experience in analyzing and testing facility system performance, and in producing engineering prototypes, studies, and technical documents is required.

6.1.5.3 Knowledge of professional engineering principles, practices and procedures is required. Specialized knowledge of requisite NAS systems, software and equipment is required.

6.1.6 Meteorologist:

6.1.6.1 A Bachelor of Science degree in Meteorology, Atmospheric Science, or other natural sciences, is required.

6.1.6.2 At least six years experience providing radar meteorological services is required. Specialized experience in Doppler weather radar meteorological applications, in evaluating Doppler weather radar products, and in producing analytic reports is required. Experience in computer systems analysis, design, and programming is required. Specialized engineering experience on NAS systems and equipment is highly desirable.

6.1.6.3 Knowledge of professional meteorological procedures involved with weather radar equipment and systems, performance testing, certification, and validation are required.

6.1.7 Computer Scientist:

6.1.7.1 A Bachelor of Science degree in Computer Science is required. The degree must include 30 semester hours in a combination of mathematics, statistics, and computer science. At least 15 of the 30 semester hours must have been in any combination of statistics (not business statistics) and mathematics that included differential and integral calculus.

6.1.7.2 At least six years experience in providing computer science services is required. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements. Experience in software development and modifications, circuit analysis, and technical writing skills are required. Requisite experience on NAS systems and equipment is highly desirable.

6.1.7.3 Knowledge of systems software, computer systems architecture and integration, software programming, development, review, audit, testing, configuration management, requirements, and changes is required. Highly developed software programming skills in NAS applications software such as 'C', UNIX, Assembly, ADA, and FORTRAN are required. Specialized knowledge of NAS systems and equipment is required.

6.1.8 Computer Systems Analyst/Computer Programmer:

6.1.8.1 A Bachelor of Science degree in Computer Science is required. A degree in another technical discipline may be substituted depending on other qualifications, and length and type of specialized experience.

6.1.8.2 At least four years experience in providing computer programmer/computer systems analyst services is required. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements. Experience in producing and maintaining software and firmware programs and documentation is required. If direct NAS support, requisite experience on NAS systems and equipment is highly desirable.

6.1.8.3 Knowledge of software programming, development, review, audit, testing, configuration management, requirements, and changes is required. Highly developed programming skills using 'C'/'C++', UNIX, Assembly, ADA, FORTRAN, and other NAS required software is required. For direct NAS support positions, specialized knowledge of NAS systems and equipment is required.

6.1.9 Network Administrator:

6.1.9.1 A Bachelor of Science degree in Computer Science is required. The degree must include 30 semester hours in a combination of mathematics, statistics, and computer science. At least 15 of the 30 semester hours must have been in any combination of statistics (not business statistics) and mathematics that included differential and integral calculus. Specialized advanced degrees appropriate to the field of technology covered by this SOW may be substituted for a limited portion of the experience requirements.

6.1.9.2 At least six years of experience in developing, revising, testing, and maintaining hardware, software, and associated documentation applied to Local Area Network (LAN) support is required. Assistance in developing of training materials for network users is required.

6.1.9.3 Knowledge of LAN and E-MAIL software programming, development, review, audit, testing, configuration management requirements, and changes is required. Highly developed programming skills using Netware, Zenworks, and other applications software tools are required.

6.1.10 Data Base Administrator:

6.1.10.1 A Bachelor of Science degree in Computer Science is required. A degree in another technical discipline may be substituted depending on other qualifications, and length and type of specialized experience.

6.1.10.2 At least five years experience in developing, revising, testing, and applying code to data base applications is required. Assistance in development of training materials and training of data base users may be required.

6.1.10.3 Knowledge of software programming, development, review, audit, testing, configuration management, requirements, and changes is required. Highly developed programming skills using Oracle, Solaris Operating System, Power Builder, CCC Harvest, and other software as identified is also required.

6.1.11 Computer Support Specialist:

6.1.11.1 A Certificate of Training in a two year Computer Maintenance curriculum from either a community college or Vocational Education School is required. An equivalent Certificate of Training from the Military will be acceptable.

6.1.11.2 At least three years of experience in maintaining hardware and software applications as applied to Local Area Network (LAN) and peripheral equipment support is required. Assistance in development of training materials and training of network users is also required.

6.1.11.3 Knowledge of LAN and E-MAIL hardware and software is required. Proficiency in programming skills using Netware, Zenworks, and other LAN applications software tools is required.

6.1.12 Engineering Technician/Electronic Technician:

6.1.12.1 An Associate Degree in Electronics Technology or completion of equivalent technical courses in the Military Service or the FAA Academy is required.

6.1.12.2 At least five years experience in an engineering technical support position or electronic systems maintenance support position is required. Engineering technician experience includes working with engineers in prototype design development and testing. Electronic technician experience includes operating, installation, troubleshooting, and repair of electronic systems and equipment. Experience in writing and revising technical documentation for electronic and electro-mechanical systems and equipment is required.

6.1.12.3 Knowledge of maintenance and operation procedures of systems and equipment is required. Knowledge of data processors, software and firmware applications, and computer systems is desirable. Knowledge of NAS related systems and equipment is highly desirable. Knowledge of equipment fabrication, assembly of prototypes, and shipping and receiving of equipment is desired. Tradeoffs between these requirements and other qualifications may be made after evaluation of applicant's qualifications. For direct NAS support positions, specialized knowledge of NAS systems and equipment is required.

6.1.13 General Technician:

6.1.13.1 An Associate Degree in mechanical or electrical technology or completion of equivalent technical courses in the Military Service or the FAA Academy is required

6.1.13.2 At least four years experience in performing maintenance and/or installation related activities on electrical and mechanical systems and equipment is required. General technician experience may include operation, installation, troubleshooting, and repair of electrical and mechanical operating systems and equipment. Facility plant or building maintenance experience

may be acceptable. Experience in performing installation and maintenance activities from written documentation is required.

6.1.13.3 Knowledge of NAS facilities and related systems and equipment; operational procedures; and technical documentation are highly desirable. For direct NAS support positions, specialized knowledge of NAS systems and equipment is required.

6.1.14 Technical Editor/Technical Writer:

6.1.14.1 An Associate Degree in Communications is required. A Bachelor of Arts Degree in Communications or related discipline is desirable.

6.1.14.2 At least three years experience in writing and editing technical documentation is required. Experience in writing and editing technical documentation on NAS equipment is highly desirable.

6.1.14.3 Knowledge of the FAA modification and documentation process and the FAA directive system is desired.

6.1.15 Technical Draftsman/Illustrator:

6.1.2.7.1 A two-year Associate Degree in Technical Design and Drafting is required. A Bachelors of Science Degree in engineering or industrial technology or drafting is desirable.

6.1.2.7.2 At least three years experience in Computer Aided Design and drafting and manual preparation of engineering drawings and technical illustrations is required.

6.1.2.7.3 Knowledge of drafting procedures and processes is required. Working knowledge of NAS systems and equipment is highly desirable.

6.1.16 Environmental & Occupational Safety and Health (EOSH) Specialist:

6.1.16.1 A Bachelor Degree with major study in safety, occupational health and/or environmental protection. A degree in another technical discipline which included at least 24 hours of study from among the following disciplines: safety, occupational health, industrial hygiene, occupational medicine, toxicology, public health, mathematics, physics, chemistry, biological sciences, engineering and industrial psychology, may be substituted depending on other qualifications, and length and type of specialized experience.

6.1.16.2 At least five years experience managing safety and occupational health program elements, to include environmental protection, is required. Areas of support include, but are not limited to, the following: (1) Safety & Occupational Health: The elimination or minimization of human injury and property and productivity losses, caused by harmful contact incidents, through the design/implementation/support of effective management policies, programs, or practices. Developing and recommending safety & occupational health policy to management. Applying safety & occupational health laws, regulations, principles, theories, practices, and procedures to advise on or resolve technical matters within the program. Developing safety & occupational health policy, practices, and procedures to eliminate or control potential hazards. Developing or implementing programs to reduce the frequency, severity, and cost of accidents and occupational illnesses. Modifying workplaces, processes, products, or other systems to control or eliminate hazards. Inspecting or surveying workplaces, processes, products, or other systems for compliance with established safety & occupational health policies or standards to identify potential new hazards. (2) Environmental Protection: Advising on, managing, or performing program work relating to environmental protection programs (e.g., programs to protect or improve environmental quality, control pollution, remedy environmental damage, or ensure compliance with environmental laws and regulations). Program administration and oversight, which involves managing, administering, and coordinating programs or projects to achieve and maintain environmental compliance of ongoing operations or remediate past environmental violations or

compliance problems. Inspecting or surveying workplaces, processes, products, or other systems for compliance with established environmental protection policies or standards to identify potential new hazards. (3) Training: Training of workers, supervisors, or managers in safety, occupational health, or environmental protection subjects, to include development of such training and training program administration.

6.1.16.3 Substantive knowledge of the principles, standards, and techniques of safety and occupational health program management is required. Specialized knowledge of the principles and methods of administering environmental protection programs and the laws and regulations related to environmental protection activities is required. Effective oral and written communication skills are required, specifically, development of technical/non-technical course material and the class delivery thereof. Ability to use software applications in support of training development/delivery such as Framemaker, Flash, Authorware. Ability to apply advanced concepts of Excel to support training administration.

6.1.17 Administrative Analyst, Level 3:

6.1.17.1 An Associate Degree related to the program support provided is required. As an example, an Associate Degree in Computer Science, Engineering Technology or Information Systems Management would be required in providing assistance to quality assurance or configuration management.

6.1.17.2 At least three years experience in respective area of support is required. Typical areas of support include, but are not limited to: NAS Configuration Management; database management; Safety Management System (SMS); quality assurance; or other substantive programs national in scope wherein work is difficult and complex and new methods, approaches, and/or procedures may have to be developed.

6.1.17.3 Ability to use advanced word-processing and computerized spreadsheet applications, such as are found in MS Office, are required. Knowledge of FAA and AJW-14 administrative policies and procedures is desired.

6.1.18 Administrative Analyst, Level 2:

6.1.18.1 An Associate Degree related to the program support provided is required, or

6.1.18.2 At least two years experience in respective area of support is required. Typical areas of support include, but are not limited to: telecommunications; physical space; property; purchasing through contract, or other programs wherein work is difficult, non-routine in nature, but well-precedented.

6.1.18.3 Ability to use advanced word-processing and computerized spreadsheet applications, such as are found in MS Office, are required.

6.1.19 Administrative Analyst, Level 1:

6.1.19.1 Completion of one or two years of college courses in the specific area of work is desirable, or

6.1.19.2 At least one year experience in respective area of support is required. Typical areas of support include, but are not limited to: maintaining engineering or maintenance records, processing purchase requests, shipping, receiving, or other programs wherein day-to-day work is recurring and routine in nature and work procedures are well-established.

6.1.19.3 Ability to use advanced word-processing and computerized spreadsheet applications, such as are found in MS Office, are required.

6.1.20 Secretary 3:

6.1.20.1 An Associate Degree in Office Administration, Business Administration, or other related discipline is desirable. Experience in office administration, or related specialized training is required.

6.1.20.2 At least four years experience in providing secretarial services in an office environment at the second-level of management is required. Skills should include maintenance of administrative and technical files, word processing, compose correspondence, prepare reports, maintain T&A records, schedule meetings, etc. Additionally, instructs and assists secretaries within the branches on procedural matters such as the correct procedures to follow in preparing correspondence, securing FAA ID badge, maintaining official records, scheduling conferences, etc.

6.1.20.3 Ability to use advanced word-processing and computerized spreadsheet applications are required. Ability to communicate effectively orally and in writing is required.

6.1.21 Secretary 2:

6.1.21.1 An Associate Degree in Office Administration, Business Administration, or other related discipline is desirable.

6.1.21.2 At least three years experience in providing secretarial services in an office environment at the first-level of management is required. Skills should include maintenance of administrative and technical files, word processing, compose correspondence, prepare reports, maintain T&A records, schedule meetings, etc.

6.1.21.3 Ability to use advanced word-processing and computerized spreadsheet applications are required. Ability to communicate effectively orally and in writing is required.

6.1.22 Secretary 1:

6.1.22.1 An Associate Degree in Office Administration, Business Administration, or other related discipline is desirable.

6.1.22.2 At least two years experience in providing administrative services in an office environment at the first-level of contract management is required. Skills should include maintenance of administrative and technical files, word processing, compose correspondence, prepare reports, maintain T&A records on a back-up basis, schedule meetings, etc.

6.1.22.3 Ability to use advanced word-processing and computerized spreadsheet applications are required. Additionally, ability to communicate effectively orally and in writing is required.

6.1.23 Program Analyst:

6.1.23.1 A Bachelor's Degree with a major in accounting or another four-year degree wherein at least 18 semester hours in accounting were completed is required, or

6.1.23.2 At least four years of experience in accomplishing budget related activities and providing support to an organizational entity with a budget in excess of one million dollars is required. Typical duties include, but are not limited to: support for the contractor's purchase card program (if applicable); organization-wide reconciliation; supply/logistics program; contract vouchering process including voucher review for the travel program; process improvement; and review and processing of purchase requests. Additionally, ensures that the Data Management System (DMS) accurately reflects commitments and obligations through timely and accurate updates.

6.1.23.3 Ability to use advanced word-processing and computerized spreadsheet applications is required. Ability to communicate effectively orally and in writing is required.

6.1.24 Developmental Positions:

There may be cases where the Contractor finds it necessary to employ individuals that do not meet the full education and experience requirements. In those cases, the Contractor may submit for FAA consideration a resume with justification and target position in advance of commitment. If approved, the applicant to the target position shall be assigned to perform contract work under the appropriate developmental title.

6.2 Waiver of Requirements:

Some applicants may not meet the formal education requirements, but have demonstrated the ability to perform some or all of the work elements described in SECTION 6.1 – Position Requirements and Qualifications for personnel. These individuals have gained qualifying experience through previous work in the FAA Academy, field maintenance activities, and FAA engineering organizations. FAA reserves the right to waive the formal education requirements for these individuals with qualifying experience; EXCEPT, formal education requirements shall not be waived for engineers, meteorologists, and/or computer scientists. Also, FAA reserves the right to approve the contractor's proposed personnel who may be lacking some of the education and experience requirements.

6.3 CONTRACTOR STAFFING:

3.4.1 Staffing Levels:

The majority of Position Titles below show a range of employees that may be needed during contract performance. The lower end of the staffing range approximates past historical data whereas the higher end of the staffing range may be needed due to the advancement of NextGen programs. It is possible that AJW-14 may be either understaffed or over staffed on a particular skill category for periods of time without exceeding the maximum staffing number of 525. For example, project requirements may dictate we have more than 69 Engineering Technicians but less than 9 Computer Programmers thereby not exceeding the limit of 525.

	STAFFING RANGE
POSITION TITLE	
Contract Manager	1
Technical Manager	8-11
Software Engineer	19-31
Elect/Electronic Engineer	131-155
General Engineer	3-7
Meteorologist	1
Computer Scientist	25-37
Computer Systems Analyst	2-5
Computer Programmer	9-16
Network Administrator	2-3
Data Base Administrator	0-1
Computer Support Specialist	0-1
Engineering Technician	51-69
Electronics Technician	19-36
General Technician	45-60
Technical Editor	10-21
Technical Writer	10-15
Technical Draftsman/Illustrator	2-3
EOSH Specialist	1-2
Administrative Analyst 1, 2, 3	21-32
Secretary 1, 2, 3	6-8
Program Analyst	5-10
	525 max Est. Total

7.0 FACILITIES, SUPPLIES, AND EQUIPMENT:

7.1 Contractor Furnished Facilities:

Currently, enough Government space exists to house the current contract **office** staff of approximately 300; however, if work substantially increases, the Contractor may be requested to establish an Oklahoma City office to accomplish some of the requirements of this SOW. If established, this office should be conveniently located near the Mike Monroney Aeronautical Center. The facilities shall be consistent with the quality of office space normally utilized by Government agencies.

Additionally, the Contractor may be required to obtain, manage and operate storage and production workspace which shall be conveniently located near the Mike Monroney Aeronautical Center. The uses of any such facilities may include, but shall be limited to: the temporary storage of in-process parts, supplies, and materials and production workspace areas. Any such facilities shall be compatible with their intended uses.

7.2 Government Furnished Facilities:

To the extent space is available, contract personnel will be located at the MMAC, Tech Center, or another Government facility. The following services will be provided when the Contractor is located at Government facilities.

- a. Facilities. The Government shall provide working space and furnishings for contract personnel consistent with facilities provided to government employees in that work area. The Contractor shall maintain the same level of physical security and safety as required by government personnel.
- b. Utilities. Contract employees will be provided the same utilities as those provided FAA employees while located at Government facilities. The Contractor shall use Government furnished utilities in a prudent manner in accordance with local policies/standards.
- c. Telecommunications. The Government shall furnish telecommunication service to the work area for official use only.
- d. Janitorial Services. The Government shall provide the same janitorial service to the Contractor as provided for FAA employees while located at the MMAC, Tech Center, or other Government facility.

7.3 General Supplies and Equipment:

7.3.1 Contractor Provided Supplies and Equipment:

7.3.1.1 In the case of a Contractor Office not located at Government facilities, the Contractor shall provide all office supplies and equipment necessary to perform all aspects of the work.

7.3.2 Government Provided Supplies and Equipment:

7.3.2.1 For contractor personnel located at the Mike Monroney Aeronautical Center, Technical Center, or other Government facility, the Government will provide basic supplies and materials normally available to Government employees including, but not limited to: office furniture, personal computer, office supplies, etc. Some additional supplies and materials may be required to be purchased by the Contractor. The cost of these supplies and materials shall be reimbursed to the Contractor as a direct cost in accordance with acceptable accounting principles and if deemed necessary by the Government in performance of the work. The business practices that apply to the contractor's purchases should reflect the same degree of rigor as applies to acquisitions made by

the FAA. At a minimum, competition is required to be the basis for vendor selection, prices to be reasonable, and all costs to be allocable to the contract. Documentation must be present to show the competitive process that was used or the rationale for not using competition.

7.3.2.2 Certain assigned projects may require special supplies, tools, or equipment. The Government may choose to provide these items or authorize the Contractor to buy them under a reimbursable arrangement. Purchase of special supplies/tools/equipment in excess of \$100,000 per purchase requires advanced approval by the ACO or designated representative.

7.3.2.3 Reimbursement of supplies and equipment, utilized in performance of this SOW, will be submitted through the standard voucher method if appropriate approvals were received prior to purchase. Backup documentation regarding competitive quotes and proof of price fair and reasonable to the Government will be required to be provided to the COTR and the ACO for review and approval as requested by the ACO and the COTR.

7.3.2.4 The Contractor will be granted use of the AJW-14 Test Equipment Lab, Computer Room, and requisite Program Support Facilities to perform the technical support required under this SOW. Use of the AJW-14 support facilities and equipment must be coordinated with the requiring organization.

7.3.2.5 Contractor personnel may utilize the AJW-14 Technical Documentation Center for access to technical reference materials during normal duty hours in support of duties/tasks/projects performed under this contract.

7.4 Government Furnished Property (GFP):

The Contractor shall be directly responsible and accountable for all Government property provided under this contract. The Contractor shall comply with associated FAA property clauses and contract requirements including submission of an annual report pursuant to CDRL A006 (GFP Report). At contract expiration, the Contractor shall return all GFP back to the Government.

8.0 REPORTING

8.1 Engineering Project List:

The Contractor shall establish and maintain a list of project assignments. Typically the list will include the project number, project title, project status, employee names of personnel working on the project, deliverable(s), and project completion date (both estimated and actual) for all projects assigned. This schedule shall be kept current. If the estimated date changes, the Contractor shall place an asterisk next to the date to indicate the change. The report shall show a breakdown of all active and completed projects. A hard copy or electronic copy will be made available to the COTR pursuant to CDRL A001 (Status of Project Assignments). Contractor format is acceptable.

8.2. Security Reports:

The Contractor shall submit a semi-annual report providing a listing of the names of all contractor personnel who had access to an FAA facility, sensitive information and/or resources anytime during the reporting period. Copies shall be submitted to the CO, COTR, and Security Office pursuant to CDRL A002 (Contractor Roster). In furtherance of the above report, the Contractor shall also submit a monthly report of any employment changes made during the reporting period to the CO, COTR, and Security Office pursuant to CDRL A003 (Employee Changes). Examples of changes are terminations, new hires, and name changes. Contractor format is acceptable.

8.3 Adhoc Reports:

Status reports are an integral function of the work effort outlined in the SOW. The contractor will be required to prepare and/or assist in the preparation of reports on an as needed basis pursuant to CDRL A004 (Adhoc Reports). Typically the types of reports will include but not be limited to: trip reports, budget status, training, requests for assistance (ROA), staffing, configuration management, project status reports, white papers, documentation, briefing papers, etc. Contractor format is acceptable.

8.4 Progress Reviews:

On an "as-required" basis, contractor employees and their management may be called on to provide progress reviews on project activities. Typical progress reviews will be an oral presentation to the Government managers. Contractor management and employees may be asked to participate in more formal program reviews. The conduct and outcome of an oral presentation shall be documented as a comment to the project profile within DMS.

8.5 Activity Reports:

The Contractor shall submit a weekly activity report for each task order pursuant to CDRL A005 (Activity Reports). The reporting period shall be Monday through Friday, and the report shall be due on the following Tuesday. The report shall include the name of each employee assigned to the task and the work accomplished during the weekly reporting period. Contractor format is acceptable.

8.6 GFP Report:

The Contractor shall submit an annual report listing of all GFP pursuant to CDRL A006 (GFP Report). The report shall include the name of the contract employee, branch where the employee works, description of the item (including phone numbers if applicable), serial number, and cost of the item. Contractor format is acceptable.

8.7 Contract Funds Status Report (CFSR):

The Contractor shall submit a monthly report detailing the contract funds status pursuant to CDRL A007 (CFSR). The report shall include the contract number, task number, obligation amount per task, invoices submitted and paid, invoices awaiting payment, costs accrued but not yet billed, and funds remaining on the task.

<u>9.0 QUALITY CONTROL:</u>

The Contractor is solely responsible for the quality of products and services provided. The Contractor shall establish and maintain a quality control program for the furnishing of supplies and services pursuant to CDRL A008 (Quality Control Plan). This program shall include a controlled plan of events integrating all necessary procedures, controls, inspections, and tests required to substantiate quality of service and product as stated in FAA-STD-013d, Quality Control Program Requirements. Any additional quality control processes or procedures if required will be identified in requisite task, sub-task, or engineering project requirements.